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DISCIPLINE: ENVIRONMENT

TITLE: APPLICATION OF REMOTE SENSING IN THE STUDY OF VEGETATION AND SOILS IN IDAHO (MMC #313-3)

PRINCIPAL INVESTIGATOR:

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SUMMARY: Ground truth verification of interpretation of autumnal imagery was continued. Information was obtained from two Bureau of Land Management grazing districts on range reseeding projects and the imagery was checked for these sites. Of 94 individual seedings established since 1960, only 47 (50 percent) were sufficiently distinct from the surrounding vegetation for line delineation at the 1:250,000 scale. The remaining 50 percent of the seedings did not show sufficient difference from surrounding vegetation in autumn-acquired imagery. In one district with 36 seedings 60% of the seedings were identified but none of five seedings rated as poorly established was detected. Only seedings larger than 640 acres were included in the analysis. Generally, seedings surrounded by annual grass vegetation located in wildfire burn areas, or adjacent to shadscale vegetation were not detectable from the ERTS imagery checked. Evaluation of spring imagery for detection of seeded areas is in progress.

Detection of annual grass dominated ranges in southern Idaho appears to be limited to imagery acquired from April to early June except in areas bordered by dense stands of sagebrush. Distinction of shadscale and related salt-desert shrub vegetation from sagebrush and annual grass dominated ranges has been fairly consistent due to the high percentage of bare ground inherent to the shadscale and related types.

Observations of wildfire burns in the annual grass type indicated that detection of burned areas became increasingly difficult as the season progressed. For a period of about a month after burning, the areas were conspicuously darker than the surrounding vegetation due to presence of ash. As the season progressed the amount of ash diminished due to wind action. As the ash was lost and the amount of bare ground increased, the images became lighter and separation from surrounding cured annual grass vegetation became increasingly difficult as the season progressed.

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